



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,778	03/29/2007	Barbara Hoppe	13806/28	5508
26646 7590 07/23/2010 KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004				
EXAMINER				
LEE, REBECCA Y				
ART UNIT		PAPER NUMBER		
1793				
MAIL DATE		DELIVERY MODE		
07/23/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/581,778  
Filing Date: March 29, 2007  
Appellant(s): HOPPE ET AL.

---

Clifford A. Ulrich  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 28 June 2010 appealing from the Office action mailed 18 December 2009.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 1-23 and 31 are cancelled. Claims 35-55 are withdrawn. Claims 24-30 and 32-34 are finally rejected and under appealed.

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

GB 2153845	Shaw et al.	08-1985
US 20020157737	Chesnes et al.	10-2002
US 4802933	Rabinkin	02-1989
JP 63065044	Wakushima et al.	03-1988

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 24-30 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (GB2153845) in view of Chesnes et al. (US 20020157737).

Regarding claims 24-30 and 32, Shaw et al. teach an alloy with a composition relative to that of the instant invention, in weight percent, as shown below (abstract):

Element	Instant claims	Shaw et al.	Overlap
Ni	63-86	Balance	balance
Cr	5-17	6-17	6-17
Co	8-15	5-20	8-15
Mo	1-5	0-15	1-5
Al	2-8	3-8	3-8
Ta	1-8	0-5	1-5
Nb	0.1-2	0-2	0.1-2
Y	0.1-1	0-0.2	0.1-0.2
Hf	1-5	0-3	1-3
B	0.5-2.5	0-0.85	0.5-0.85

The amounts of Ni, Cr, Co, Mo, Al, Ta, Nb, Y, Hf and B disclosed by Shaw et al. overlap the claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb, Y, Hf and B of the instant invention, which is prima facie evidence of obviousness MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to have selected claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb, Y, Hf and B from the amounts disclosed by Shaw et al. since Shaw et al. disclose the same utility throughout the disclosed ranges.

Furthermore, even though Shaw et al. do not expressly teach the disclosed alloy can be used as a solder alloy, since the composition of the alloy disclosed by Shaw et

al. is similar to the one claimed, one of ordinary skill in the art would have expected the alloy of Shaw et al. can also be a solder alloy as claimed.

Shaw et al. neither expressly teach the alloy further comprises palladium in the claimed amount (amended feature of claims 24 and 29), nor teach the claimed melting range of the alloy (amended feature of claim 24).

Chesnes et al. teach a similar solder alloy further comprises 0-1% Pd (abstract).

One of ordinary skill in the art would have found it obvious to further include Pd in as taught by Chesnes et al. into the alloy of Shaw et al. in order to obtain an improved solder alloy as taught by Chesnes et al. (section 0005). In addition, the amount of Pd in the alloy of Shaw et al. in view of Chesnes et al. overlaps the claimed amount, which is prima facie evidence of obviousness MPEP 2144.05 I.

In addition, since the solder alloy of Shaw et al. in view of Chesnes et al. appears to be substantially identical with the alloy claimed, one of ordinary skill in the art would have expected the solder alloy of Shaw et al. in view of Chesnes et al. to exhibit substantially the same properties, such as melting point range, as claimed.

Regarding claim 33, it is mostly rejected for the same reason as set forth in the rejections of claims 24-30 and 32 above.

Shaw et al. do not expressly teach the alloy further comprises silicon in the claimed amount.

Chesnes et al. teach a similar solder alloy further 0-1 % Si (abstract).

One of ordinary skill in the art would have found it obvious to further include Si in the claimed amount as taught by Chesnes et al. into the alloy of Shaw et al. in order to

obtain an improved solder alloy as taught by Chesnes et al. (section 0005). In addition, the amount of Si in the alloy of Shaw et al. in view of Chesnes et al. overlaps the claimed amount, which is prima facie evidence of obviousness MPEP 2144.05 I.

Claims 24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (GB2153845) in view of Rabinkin et al. (US 4802933) and Wakushima et al. (JP 63065044)

Shaw et al. teach an alloy with a composition relative to that of the instant invention, in weight percent, as shown below (abstract):

Element	Instant claims	Shaw et al.	Overlap
Ni	balance	Balance	balance
Cr	9-11	6-17	9-11
Co	9-11	5-20	9-11
Mo	3.5-4.5	0-15	3.5-4.5
Al	3.5-4.5	3-8	3.5-4.5
Ta	1.5-2.5	0-5	1.5-2.5
Nb	0.5-1.5	0-2	0.5-1.5
Y	0.1-0.5	0-0.2	0.1-0.2
Hf	3.5-4.5	0-3	No overlap

The amounts of Ni, Cr, Co, Mo, Al, Ta, Nb and Y disclosed by Shaw et al. overlap the claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb and Y of the instant invention, which is prima facie evidence of obviousness MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to have selected claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb and Y from the amounts disclosed by Shaw et al. since Shaw et al. disclose the same utility throughout the disclosed ranges. In addition, even though the

amount of Hf disclosed by Shaw et al. does not overlap the claimed range, but is close enough and a prima facie case of obviousness still exists MPEP 2144.05 I.

Shaw et al. neither teach the alloy further comprises B and Pd in the claimed ranges, nor teach the claimed melting range of the alloy (amended feature of claim 24).

It is known that nickel alloys comprising palladium, as a brazing (solder material), exhibit high temperature strength as evidenced by the Background section of Rabinkin (Column 1, lines 22-25).

It would have been obvious to one of ordinary skill in the art to further include Pd into the alloy of Shaw et al. in order to obtain high temperature strength, good corrosion resistance and good erosion resistance as evidenced by Rabinkin (Column 1, lines 22-25). Furthermore, it is well held that discovering an optimum value of a result effective variable requires only routine skill in the art MPEP 2144.05 II. In the instant case, the amount of palladium in the alloy is a result effective variable since it would directly affect the mechanical properties of the alloy as evidenced by Rainkin. Therefore, one of ordinary skill in the art would have found it obvious to vary the amount of palladium in the alloy of Shaw et al. via routine optimization in order to achieve a solder alloy with desired high temperature strength, corrosion resistance and erosion resistance as taught by Rabinkin (Column 1, lines 22-25).

Wakushima et al. teach a solder alloy can further comprise 2-4% B.

It would have been obvious to one of ordinary skill in the art to further include B of 2-4% as a melting point depressant as taught by Wakushima et al. into the alloy of



Shaw et al. in order prevent deterioration in strength and impact value as taught by Wakushima et al. (abstract).

In addition, since the solder alloy of Shaw et al. in view of Rabinkin et al. and Wakushima et al. appears to be substantially identical with the alloy claimed, one of ordinary skill in the art would have expected the solder alloy of Shaw et al. in view of Rabinkin et al. and Wakushima et al. to exhibit substantially the same properties, such as melting point range, as claimed.

#### **(10) Response to Argument**

In response to appellant's argument A, appellant argues in the rejections of claims 24-30, 32 and 33, prior arts on record do not teach the claimed melting temperature of the alloy. However, as stated above, Shaw et al. in view of Chesnes et al. disclose a substantially identical alloy as claimed, one of ordinary skill in the art would have expected such alloy to have substantially the same melting point as claimed MPEP 2112.01. Since appellant has not provided any evidence to show otherwise, appellant's argument is not found convincing.

In response to appellant's argument B, for the rejections of claims 24 and 34, appellant reiterated the argument of that, prior arts on record do not teach the claimed melting temperature of the alloy as recited in claim 24. However, as stated above, Shaw et al. in view of Rabinkin and Wakushima et al. disclose a substantially identical alloy as claimed, one of ordinary skill in the art would have expected such alloy to have

substantially the same melting point as claimed MPEP 2112.01. Since appellant has not provided any evidence to show otherwise, appellant's argument is not found convincing.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/REBECCA LEE/

Examiner, Art Unit 1793

Conferees:

/J.A. LORENZO/

Supervisory Patent Examiner, Art Unit 1793

/Christopher A. Fiorilla/

Chris Fiorilla

Supervisory Patent Examiner, Art Unit 1700

Application/Control Number: 10/581,778  
Art Unit: 1793

Page 10